

ROBOTERR

THE NEW SEWERAGE
CONSTRUCTION TECHNOLOGY

PATENT
ROMANIA

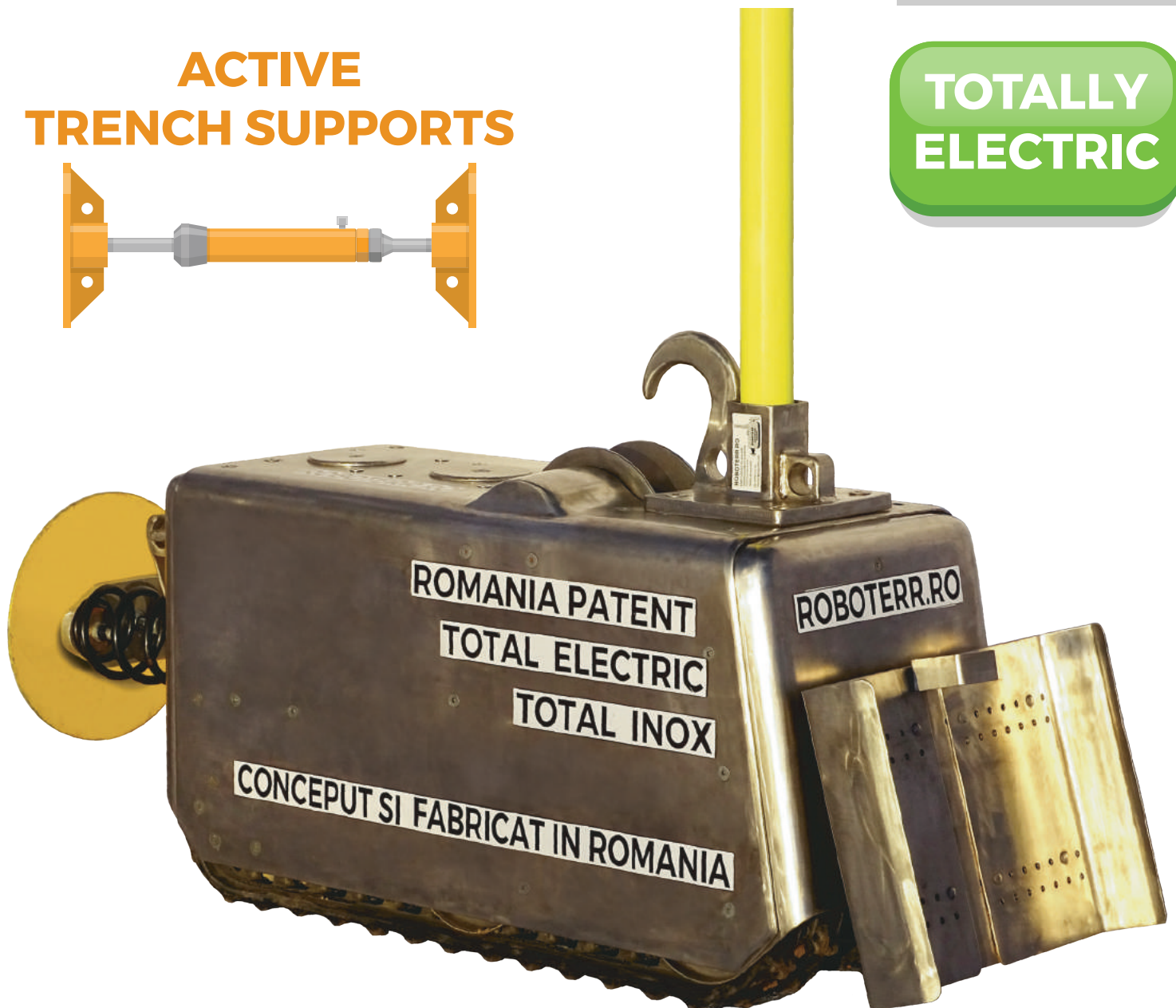
DESIGNED & MANUFACTURED IN
ROMANIA

- NO TRENCH SHIELDS
- NO WORKERS INSIDE THE TRENCH
- LEVELS THE SAND BED, ASSISTED BY **LASER LEVEL**
- JOINS THE SEWER PIPES
- LEVELS THE SAND OVER THE PIPES

ENTIRELY
STAINLESS
STEEL

**ACTIVE
TRENCH SUPPORTS**

TOTALLY
ELECTRIC



ROBOTERR is a patented sewerage construction technology, that requires no workers inside the trench and no trench shields, which consists in a robot and its equipment and accessories, specially designed to perform all the tasks done by a worker inside the sewer trench:

- Levels the sand bed with a levelling precision of +/- 1cm
- Joins the sewer pipes inside the trench
- Levels the sand over the pipes

ROBOTERR is a complete technology, and it has all that is necessary to begin and finish a sewerage construction: the robot, 7 sets of active trench supports, laser levels, laser receivers, accesories, consumables, the training and certification of the operators and license.

The technology is integrated in a van car to provide easy transportation and flexibility in the field.

The technology is designed and manufactured in Romania. It is internationally patented.

In an economical simulation, the calculations resulted in 17.000 euro/km economy with the ROBOTERR technology, compared to classic methods and technologies.

This technology can also be used for the construction of water systems, underground electrical cables, gas systems, optical fiber, irrigation systems.

The **Robot** is electric, made out of stainless steel, robust, remotely-controlled. It is assisted by a high precision laser level, for sand levelling. The robot has an autonomy of 12-14 hours, it can be recharged over night, and the next day it's ready for work.

The levelling blade of the robot is adjustable, depending on the width of the trench. The robot is equipped with a multifunctional winch, which allows it to level the sand over the pipes and perform heavy lifting and handling operations. On the back part is has a flexible device that allows it to join sewer pipes of different sizes (200, 250, 315mm), for larger diameters larger attachements can be ordered on request. The robot tracked, having maximum adhesion to the sand bed. With the included attachemnts, the robot ca join the following types of pipes: **PVC Pipes, CORRUGATED Pipes, POLYETHYLENE Pipes, POLYPROPYLENE Pipes, GRP Pipes**, and with special attachements: **CLAY Pipes**.

The main advantages of this technology are:

- Reduction of the width of the rench from a minimum of 900 mm (according to the currents standards), to 450-550 mm (according to the Roboterr Technology)
- Reduction of the quantity of excavated earth of 30-50%
- Levelling and pipe joining precision of +/- 1 cm
- Increased working speed (as fast as the excavator can dig)
- Work safety: workers are no longer required to enter the trench, the robot being remotely-controlled from the surface
- Low energy consumption: 1 Euro /day
- Handling of the trench shields by excavators is no longer required
- Trench shields are no longer required
- Reduction of human errors: bad pipe joints, reversed slope

The active trench supports are patented hydraulic trench shoring devices, each can be assembled and installed by a single worker in less than a minute. Compared to classic trench shields, the active trench supports press the trench walls and do not allow them to weaken and collapse. These devices are designed to only be used with the robot, and not with workers inside the trench.

We are looking for national and international partners and dealers



THE PRODUCTS INCLUDED IN A KIT

1. Robot
2. Radio remote control
3. Robot monitoring system
4. Plug charger
5. Aluminum ramp
6. Turelă telescopică
7. Pipe joining device
8. Unealtă telescopică cu cârlig: 2 pieces
9. Telescopic levelling tool
10. Attachment for pipe joiner – 200 mm diameter
11. Attachment for pipe joiner – 250 mm diameter
12. Attachment for pipe joiner – 315 mm diameter
13. Capac protecție montaj țevă
14. Active trench supports:
 - Special hydraulic cylinders: 7 pieces
 - High-resistance plates: 14 pieces
 - Extension hydraulic hose: 4 pieces
15. High-Precision TOPCON Laser Level, automatic slope adjustment
16. Tall and adjustable rod for laser receiver
17. Suport receptor laser pentru turelă cu șufă flexibilă și prindere
18. Laser receiver for rigid rod
19. Laser receiver for flexible rod
20. Magnetic laser receiver, for excavator arm
21. Laser receiver + magnetic support for excavator arm
22. Tripod for laser level
23. Wall support for laser level
24. Customized car container, for organized storage of equipment
25. Universal wrench: 5 pieces
26. Wrench
27. Suspended car container for equipment storage
28. hook for securing the robot in the car during transport
29. Utility strap roll: 2 pieces
30. Winch strap roll
31. High-resistance strap roll for difficult operations
32. Hydraulic fluid for hydraulic pumps– 3 Liter container
33. Car roof rack
34. Theoretical and practical training of a minimum of 2 operators and qualification certificates

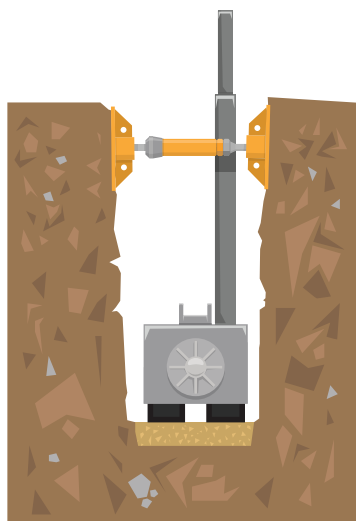
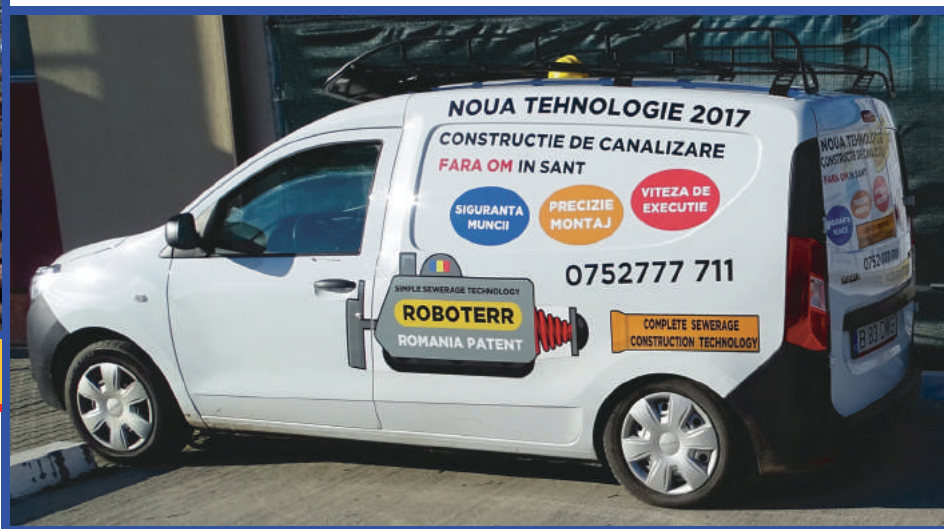
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WE OFFER LICENSE

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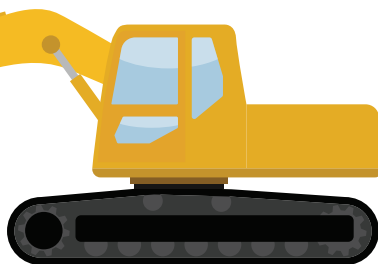


WORKING DIAGRAM



SECTIONAL
VIEW OF A
TRENCH

ACTIVE
TRENCH
SUPPORTS



**HARD WORK
BECOMES EASY**